

# Notice of Allowability

Application No.

09/551,143

Examiner

Kelly L. Jerabek

Applicant(s)

YOSHIDA ET AL.

Art Unit

2622

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/23/2006.
2. ☒ The allowed claim(s) is/are 1-7, 21-27, 33 and 34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other. _____.   |

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas Brown on 6/6/2006.

Please cancel claims 28-32.

***Allowable Subject Matter***

**Claims 1-7, 21-27 and 33-34 are allowed.**

The following is an examiner's statement of reasons for allowance:

Re claims 1-2 and 21-22, the prior art fails to teach or suggest, "A single sensor color image pickup apparatus for picking up a color image, comprising: a pixel group

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placed in an array of a plurality of pixels of photoelectric conversion elements and a three-colored coding array corresponding to the pixel group, **arranged in a randomized array satisfying predetermined minimum color distributing conditions but having no regularity**; the three-colored coding array arranged in the randomized array directly picks up the color image; and three-colored separation means for performing color separation processing of output signals of the color image pickup device in accordance with the random three-colored coding array of the color image pickup device, **wherein each of the colors of the three-colored coding array are not mixed**”

Re claims 3-7 and 23-27, the prior art fails to teach or suggest, “A single sensor color image pickup apparatus for picking up a color image, comprising: a color image pickup device having a pixel group placed in an array of a plurality of pixels of photoelectric conversion elements and a three-colored coding array corresponding to the pixel group, **arranged in a randomized array satisfying predetermined minimum color density conditions but having no regularity**; the three-colored coding array arranged in the randomized array directly picks up the color image; and three-colored separation means for performing color separation processing of output signals of the color image pickup device in accordance with the random three-colored coding array of the color image pickup device, **wherein each of the colors of the three-colored coding array are not mixed**”

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Re claims 33 and 34, the prior art fails to teach or suggest, "A single sensor color image pickup device comprising: a pixel array having two-dimensionally arranged pixels, for effecting photoelectric conversion of an incident optical image; and a three-colored separation filter for guiding the incident optical image to each pixel of said pixel array in a manner separated into a plurality of primary colors; wherein said three-colored separation filter has a **random three-colored arrangement satisfying minimum color density conditions but having no regularity** and directly picks up the color image, wherein each of the colors of the three-colored coding array are not mixed".

It is noted by the Examiner that prior art publication JP 09-168157 discloses a single CCD color image pickup element with high image quality by arranging plural color mosaic filters to a position corresponding to a picked-up picture element at a random color arrangement. However, this reference does not <sup>teach</sup> the random color array satisfies minimum color density conditions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."



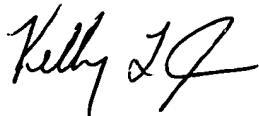
### **Contacts**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is (571) 272-7312. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at (571) 273-7312.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ



DAVID OMETZ  
SUPERVISORY PATENT EXAMINER